

517,023

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

10 Rec'd PCT/PTC 06 DEC 2004

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
26 August 2004 (26.08.2004)

PCT

(10) International Publication Number
WO 2004/072548 A1

(51) International Patent Classification⁷: **F23G 5/12**

(21) International Application Number:
PCT/US2002/020362

(22) International Filing Date: 26 June 2002 (26.06.2002)

(25) Filing Language: English

(26) Publication Language: English

(71) Applicant: **WALKER, William, C.** [US/US]; 2409 Orange Avenue, Long Beach, CA 90806 (US).

DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.

(84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

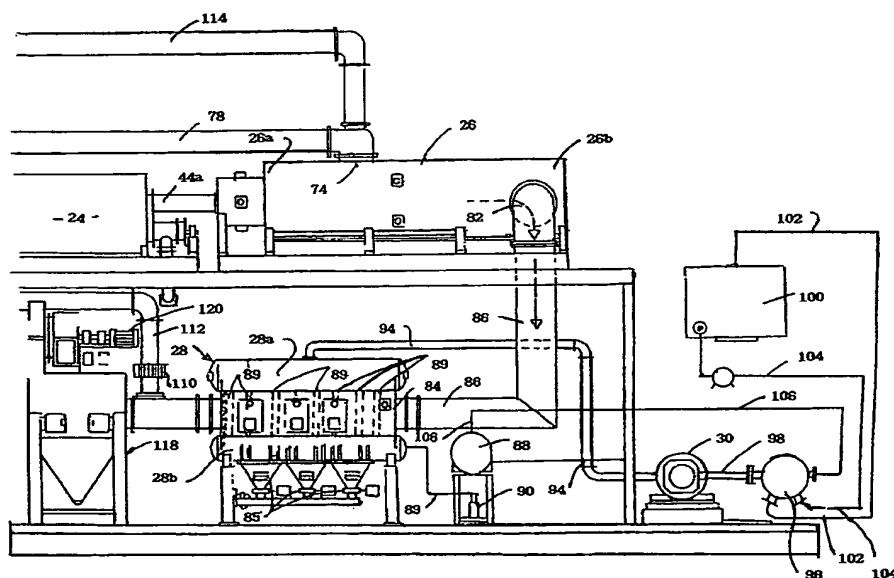
— with international search report

(74) Agents: **FISH, Robert, D.** et al.; Rutan & Tucker, LLP, 611 Anton Blvd., Suite 1400, Costa Mesa, CA 92626 (US).

(81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ,

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: METHOD AND APPARATUS FOR TREATMENT OF WASTE



(57) Abstract: An apparatus for treating waste material that comprises four major cooperating subsystems, namely a pyrolytic converter (24), a two-stage thermal oxidizer (26), a steam generator (28) and a steam turbine (30) driven by steam generated by the steam generator. In operation, the pyrolytic converter is uniquely heated without any flame impinging on the reactor component and the waste material to be pyrolyzed is transported through the reaction chamber of the pyrolytic converter by a pair of longitudinally extending, side-by-side material transporting mechanisms (42, 43).

WO 2004/072548 A1

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US02/20362

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : F23G 5/12

US CL : 110/219

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 110/219, 253, 255, 342, 346, 110, 101R, 322

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US RE 33,776 A (NOLAND) 24 December 1991 (24.12.1991), see figure 1.	1, 2, 5

Y		11, 12, 15-17
X	US 4,917,023 A (JONES) 17 April 1990 (17.04.1990), see figure 1.	1

Y		3, 4, 7, 9, 10
Y	US 3,954,069 A (LOKEN) 04 May 1976 (04.05.1976), see figure 1, column 2, lines 39-49.	4, 11, 12, 15-17
Y	US 5,376,340 A (BAYER et al) 27 December 1994 (27.12.1994), see figure 1.	3, 7, 10, 11, 12, 15-17
Y	US 5,921,763 A (MARTIN) 13 July 1999 (13.07.1999), see figure 1, column 9, lines 4-10.	10, 15-17
Y	US 5,088,424 A (SARDARI et al) 18 February 1992 (18.02.1992), column 7, lines 24-26.	9
A	US 5,410,973 A (KUNSTLER et al) 02 May 1995 (02.05.1995), see entire document.	1-17



Further documents are listed in the continuation of Box C.



See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"B" earlier application or patent published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T"

later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X"

document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y"

document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&"

document member of the same patent family

Date of the actual completion of the international search

05 May 2003 (05.05.2003)

Date of mailing of the international search report

20 JUN 2003

Name and mailing address of the ISA/US

Mail Stop PCT, Attn: ISA/US
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Facsimile No. (703)305-3230

Authorized officer

Kenneth Rinehart

Telephone No. 703-308-1722

A. Hawley

INTERNATIONAL SEARCH REPORT

C. (Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 4,504,222 A (CHRISTIAN) 12 March 1985 (12.03.1985), see entire document.	1-17
A	US 5,372,077 A (YEN et al) 13 December 1994 (13.12.1994), see entire document.	1-17